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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/552,811	10/11/2005	Johannes Baier	DE 030105	5539

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PHILIPS INTELLECTUAL PROPERTY & STANDARDS  
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EXAMINER

SANEI, HANA ASMAT

ART UNIT PAPER NUMBER

2879

DATE MAILED: 09/11/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/552,811	<b>Applicant(s)</b> BAIER ET AL.	
	<b>Examiner</b> Hana A. Sanei	<b>Art Unit</b> 2879	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 11 October 2005.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10/11/05 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>10/11/05</u> . | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Priority***

Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

### ***Specification***

The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

The following title is suggested: "mercury free high pressure metal halide discharge lamp."

### ***Claim Objections***

Claim 3 is objected to because of the following informalities: The phrase "atomic halogen" fails to have proper antecedent basis. Furthermore, clarity of the phrase is recommended.

Claims 3 & 4 is further objected to because of the following informalities: Applicant believes the term "molear" should read – molar –. Furthermore, Examiner suggests replacing the symbol ">" with – greater than –.

Claim 5 is objected to because of the following informalities: The phrase "coupling-in energy" fails to have proper antecedent basis.

Claim 6 is objected to because of the following informalities: The phrase "coupling-in energy" fails to have proper antecedent basis. Appropriate correction is required.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

1. Claims 1-4, 6, 8 are rejected under 35 U.S.C. 102(b) as being anticipated by Born et al (US 6137230).

Regarding Claim 1, Born teaches a filling (11, see at least Fig.1) comprising only (discharge space is Hg-free and the ionizable filling further comprises Zn, Col. 1, lines 50-54), a halogen (NaI, TII, or Re-iodide, Col. 2, lines 19-26) and a rare gas (Xe, Col. 2, line 14).

Regarding Claim 2, Born teaches a filling (11, see at least Fig.1) comprising only zinc (discharge space is Hg-free and the ionizable filling further comprises Zn, Col. 1, lines 50-54), iodine (NaI, TII, or Re-iodide, Col. 2, lines 19-26) and a rare gas (Xe, Col. 2, line 14).

Regarding Claim 3, Born teaches that the overall amount of the atomic halogen is about 1 and 30  $\mu\text{mol}/\text{cm}^3$  (any one of NaI, TII, RE-I in units of  $\mu\text{mol}/\text{cm}^3$ , Col. 2, lines 19-26), the overall amount zinc is more than 1  $\mu\text{mol}/\text{cm}^3$  (4  $\mu\text{mol}/\text{cm}^3$ , Col. 2, lines 29-31), and the zinc/atomic halogen molar ratio is greater than 1 (Col. 2, lines 19-26, Col. 2, lines 29-31).

Regarding Claim 4, Born teaches that the zinc/atomic halogen molar ratio is greater than 1 (Col. 2, lines 19-26, Col. 2, lines 29-31).

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Regarding Claim 6, Born teaches that the coupling-in of energy takes place by means of metal electrodes (4, 5).

Regarding Claim 8, Born teaches that the lamp tube consists of quartz, aluminum oxide, or yttrium-aluminum garnet (ceramic wall, Col. 2, lines 49-50).

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Born et al (US 6137230) in view of Hadeishi et al (US 4941743).

Regarding Claim Born, Born teaches the invention set forth above (see rejection in Claim 1 above). Born fails to teach that the in-coupling of energy takes place by means without electrodes in the microwave range.

In the same field of endeavor of discharge lamps, Hadeishi teaches that the discharge lamp is in the microwave range (Col. 3, lines 36-38) provided with (electrodes 32, 34; Fig. 1) or without electrodes (EDL, Col. 1, lines 6-16; Col. 1, lines 30-34), thus exemplifying recognized equivalent materials of the lamp in the art. Hadeishi teaches the suitability of using a discharge lamp being provided with or without electrodes in order to ensure high stability and long life (Col. 1, lines 30-34). Hadeishi further teaches the likes of a lamp that comprises two electrodes 32, 34 having the characteristics of an

electrodeless discharge lamp, thereby integrating the concepts of an electrodeless lamp with that of a discharge lamp that already occupies two opposing electrodes.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the discharge lamp of Born as electrodeless instead of with two opposing electrodes, since the selection of any of these known equivalents would be considered within the level of ordinary skill in the art as evidenced by Hadeishi's teaching.

3. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Born et al (US 6137230) in view of Caruso et al (US 4742268).

Regarding Claim 7, Born teaches the invention set forth above (see rejection in Claim 1 above). Born fails to teach the addition of calcium halide, with the overall amount of calcium being at least 1 nmol/cm<sup>3</sup>.

In the same field of endeavor, Caruso teaches a metal halide lamp comprising a calcium halide (CaI<sub>2</sub>, Col. 4, lines 43-51), with the overall amount of calcium being at least 1 nmol/cm<sup>3</sup> (5.48 μmol/cm<sup>3</sup>) for the purposes of ensuring low minimum perceptible color differences and a high color preference index (Col. 4, lines 60-64). Caruso teaches the benefit of an addition of calcium by teaching the incremental increase of the calcium iodide concentration tested in a controlled experiment (see at least Table 1). Filling compositions Additive A and Additive B are compared, their difference lying in the amount of calcium iodide increases while the composition of the fill remainder is held constant. Caruso does this to exhibit the benefits demonstrated when the amount of calcium iodide is increased from 5.5 mg to 6.6 mg of CaI<sub>2</sub>.

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Therefore, it would have been obvious to one of ordinary skill in the art, at the time of the invention, to add the calcium iodide, as disclosed by Caruso, in the discharge lamp of Born in order to/for providing ensure low minimum perceptible color differences and a high color preference index.

#### ***Other Art Cited***

Kelly (US 2003/0141818 A1) teaches a metal halide lamp that contains  $\text{CaI}_2$  for substantially increasing the red emission of the discharge lamp (B, in range of 625-650nm, refer to Fig. 3).

#### ***Contact Information***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hana A. Sanei whose telephone number is (571) 272-8654. The examiner can normally be reached on Monday- Friday, 9 am - 5 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimeshkumar D. Patel can be reached on (571) 272-2457. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Hana A. Sanei  
Examiner



**Joseph Williams**  
**Primary Examiner**